

Development and monitoring of a new prevention system of wildlife road kills in Central Italy

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In the frame of LIFE STRADE project we developed an innovative prevention system in order to reduce wildlife traffic collisions. In this presentation we show the functioning of the system and the preliminary results obtained.

The road kill prevention system included

- 1 central control unit,
- 2 road signs with flashing lights for drivers,
- 2 radar Doppler devices to measure the speed of the cars,
- an average of 10 passive infrared (PIR) sensors to detect animals on the road sides,
- the acoustic scaring device to drive away the animals,
- a modem for sending information on the number of activations of the system, and information about the charge of the batteries.

The added value of this system is that it intervenes only in risk situations, when there is the simultaneous presence of an animal on the road side and of a car that proceeds at too high speed. This shall help to reduce habituation both of wildlife and the drivers, and it also favors environmental connectivity.

The other important factor is the possibility to monitor its functioning in real time. Each time there is an activation of the sensors (animals near the road) or the acoustic scaring device (presence of a vehicle when there are animals) the system sends an e-mail to a specific address. It' also possible to monitor the status of the batteries of the central unit to understand if the system is correctly working.

The effectiveness of the system has been measured through wildlife vehicle collisions reduction, and trough the risky situation avoided (messages sent by the modem).

From August 2016 we started to use a thermic camera instead of PIR sensors, thermic camera has a higher accuracy in animal detection (up to a mouse), a greater coverage (up to 130 m.) and video feedback for each activation.

We installed a total of 17 prevention system in the 5 Provinces of the project area. They have been very effective in reducing wildlife traffic collisions and they could be a part of a general strategy as the one implemented in the LIFE STRADE project.